2018 Annual Drinking Water Quality Report

City of Ironwood Public Water Supply

March 8, 2019

We are pleased to present to you this year's Annual Drinking Water Quality Report. This is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Water Source

Our water source is two glacial aquifers, which serve the Big Springs and Spring Creek Well Fields. These six wells range with a depth of 54 feet to 140 feet. The City of Ironwood water supply recently completed a State of Michigan approved wellhead protection plan to protect the public area water supply.

Information About This Report

If you have any questions about this report or concerning your water quality, please contact Bob Tervonen at (906)932-5050 or Tim Pertile. We want our valued customers to be informed about their water quality. If you want to learn more, please attend any of our regularly scheduled meetings. They are normally held on the second and fourth Monday each month at 5:30 pm in the commission chambers of the Memorial Building at 213 South Marquette Street in Ironwood, MI.

Water Contaminants

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled water, is expected to contain at least small amounts of some contaminants. It is important that the presence of these contaminants does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Abbreviations and Terms

In this table, you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms the following definitions are provided.

Parts per million (ppm) on Milligrams per liter (mg/l) – One part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) on Micrograms per liter – One part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Action Level (AL) – The concentration level of a contaminant, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in the drinking water.

Maximum Contaminant Level (MCL) – The "maximum allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – The "goal" (MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

The City of Ironwood Water Department routinely monitors for contaminants in your drinking water according to federal and state laws. This table shows the results of our monitoring for the period January 1st to December 31st, 2018.

TEST RESULTS

Contaminants	Violation	Level	Unit	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants						

Copper	NO	630	ppb	1300	AL=1300	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Cyanide	NO	ND	ppm	.02	.02	Discharge from steel/metal factories; discharge from **Plastic and fertilizer factories**
Fecal Coliform/E coli	NO	NEG				Confirmed presence means that the routine distribution system sample or the repeat sample was total coliform-positive or fecal-positive or E. coli positive and the other **sample (routine distribution system sample or repeat sample) was fecal-positive or E. coli positive.**
Fluoride	NO	0.16	ppm	4	4	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Haloacetic Acids	NO	.019	ppm	NA	.060	Byproduct of drinking water disinfection
Lead	NO	1.2	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits
Nitrate	NO	0.26	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks (as nitrogen); sewage; erosion of natural deposits
Nitrite	NO	ND	ppm	1	1	Runoff from fertilizer use; leaching from septic tanks (as nitrogen); sewage; erosion
Sodium	NO	15	ppm	N/A	N/A	Sodium has no MCL or MCLG. Sodium contamination is a source of erosion of natural deposits.
Total Coliform	NO	NEG				Confirmed presence means that the routine distribution system sample or the repeat sample was total coliform positive.
Trihalomethanes	NO	.076	ppm	.000	.080	By-product of drinking water chlorination

As part of our routine monitoring, 40 different volatile organic compounds, pesticides and herbicides were tested, none were detected.

Chlorine Residual (Free) 2016	ppm	High	2.57	4.00
		Low	0.82	4.00
		Average	1.72	4.00
Chlorine Residual (Free) 2017	ppm	High	1.85	4.00
		Low	1.60	4.00
		Average	1.70	4.00
Chlorine Residual (Free) 2018	ppm	High	1.86	4.00
		Low	1.66	4.00
		Average	1.76	4.00

Inorganic Contaminants

Copper – Copper is an essential nutrient. Few individuals who drink water with copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Individuals who drink water with copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Cyanide – Some people who drink water containing cyanide in excess of the MCL over many years may experience nerve damage or thyroid problems.

Fecal coliform or E. coli – Susceptible vulnerable subpopulation are infants, young children, the elderly and people with severely compromised immune supplies. Confirmed presence means that the routine distribution system sample or the repeat sample was total coliform-positive or fecal-positive or E. coli positive and the other sample (routine distribution system sample or repeat sample) was fecal-positive or E. coli positive. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Fluoride – Individuals who drink water with fluoride in excess of the MCL over many years may get bone disease, including pain and tenderness of the bones. Children may also get mottled teeth.

Haloacetic Acids (HAA5) – Some people who drink water containing haloacetic acids (HAA5) in excess of the MCL over many years may have an increased risk of cancer.

Lead – If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Ironwood is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800426-4791 or at http://water.epa.gov/drink/info.lead.

Nitrate – Infants below the age of six months who drink water with nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and baby blue syndrome.

Nitrite - Infants below the age of six months who drink water with nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and baby blue syndrome.

Sodium – Sodium has no MCL or MCLG. Sodium contamination is a source of erosion of natural deposits.

Total Coliform - Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present.

Trihalomethane (TTHM) – Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, any may have an increased risk of getting cancer.

Per- and Polyfluoralkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS), sometimes called PFCs, are a group of chemicals that are resistant to heat, water, and oil. PFAS have been classified by the U.S. Environmental Protection Agency (EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population.

These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Although our understanding of these emerging contaminants is constantly evolving, elevated levels of PFAS have the potential to cause increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. Links to these health effects in humans are supported by epidemiologic studies and by laboratory studies in animal models.

Are there health advisory levels?

The EPA has not established enforceable drinking water standards, called maximum contaminant levels, for these chemicals. However, EPA has set a lifetime health advisory (LHA) level in drinking water for two PFAS: perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). The PFOA and PFOS LHA is the level, or amount, ***below which no harm is expected from these chemicals***. The LHA level is 70 parts per trillion (ppt) for PFOA and 70 ppt for PFOS. If both PFOA and PFOS are present, the LHA is 70 ppt for the combined concentration.

The amount of PFOA and PFOS combined in the sample collected from wells 104, 201, 202, 203 and 204 were 0 or ND (no detection). There are many other PFAS compounds that currently do not have LHA levels. For information on PFOA, PFOS and other PFAS, including possible health outcomes, you may visit these websites: https://www.epa.gov/pfas; www.atsdr.cdc.gov/pfas; or http://www.michigan.gov/pfasresponse.

Why was City of Ironwood's source water tested for PFAS?

The Michigan PFAS Action Response Team (MPART) has undertaken a proactive approach effort to investigate sources and locations of PFAS contamination in Michigan, to protect our drinking water, and to inform the public about PFAS. This involves the work of 10 state departments, in coordination with local and federal officials.

Who can I call if I have questions about PFAS in my drinking water?

If any resident has additional questions regarding this issue, the State of Michigan Environmental Assistance Center can be contacted at 800-662-9278. Representatives may be reached to assist with your questions Monday – Friday, 8:00 AM to 4:30 PM. You may also contact Bob Tervonen at the City of Ironwood at 932-5050 x111 if you have any questions.

Is it safe to eat fish in these areas?

Wild fish samples are being collected from local lakes and rivers. These samples will be analyzed to determine the levels of PFAS in fish and make recommendations on how much is safe to eat. Some information is already available in the State of Michigan Eat Safe Fish guides, which are available at **www.michigan.gov/eatsafefish**.

May I bathe or swim in water containing PFAS?

Yes, information currently available suggests that this is not a major contributor to overall exposure.

How can PFAS affect people's health?

Some scientific studies suggest that certain PFAS may affect different systems in the body. The National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR) is working with various partners to better understand how exposure to PFAS might affect people's health.

If you are concerned about exposure to PFAS in your drinking water, please contact the MDHHS Toxicology Hotline at 800-648-6942 or the CDC/ATSDR: **https://www.cdc.gov/cdc-info/** or 800-232-4636. Currently, scientists are still learning about the health effects of exposures to PFAS, including exposure to mixtures.

What other ways could I be exposed to PFOA, PFOS and other PFAS compounds?

PFAS are used in many consumer products. They are used in food packaging, such as fast food wrappers and microwave popcorn bags; waterproof and stain resistant fabrics, such as outdoor clothing, upholstery, and carpeting; nonstick coatings on cookware; and cleaning supplies, including some soaps and shampoos. People can be exposed to these chemicals in house dust, indoor and outdoor air, food, and drinking water. There is still uncertainty regarding these routes of exposure, and more research is necessary.

What is being done about this issue?

State and local agencies are actively working to obtain more information about this situation as quickly as possible. Additional testing of the drinking water will be conducted to demonstrate that the PFAS levels are consistent, and reliably below the existing LHA. Additional monitoring in and around our region and other affected areas will also be performed by DEQ, which will help us answer more questions and determine next steps.

How can I stay updated on the situation?

The state has created a website where you can find information about PFAS contamination and efforts to address it in Michigan. The site will be updated as more information becomes available. The website address is **http://michigan.gov/pfasresponse.**

What This Means

As you can see by the table, our system had no violations. We are proud that your drinking water meets or exceeds all federal and state requirements. We have learned through our monitoring and testing that some constituents have been detected. **The EPA has determined that your water IS SAFE at these levels.**

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, one would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Water Service Lines

The City of Ironwood water system has approximately 2800 water service lines that provide water service to each metered customer. City staff is investigating the type of material of each service line and have been unable to determine the material used in approximately 800 water service lines. Occasionally, a galvanized service line is discovered that is connected to a lead "gooseneck" at the water main. When discovered, City of Ironwood staff will remove the connection and replace the service line with a copper service line in a timely manner.

Water System Improvements

The City of Ironwood completed installing water and sewer mains in the in the Washington Street and Sutherland Avenue neighborhood and 6000' of a transmission water main and were funded by USDA Rural Development. The sewer system improvements eliminated problems with infiltration and inflow while the water system projects improved water flow for fire protection and service to these areas.

Since 1997, the City of Ironwood has invested in over twenty-five million dollars ($25 million) in our pump station, well fields and distribution system. These improvements were completed with very modest water rate increases, which are still around the water rate average in the Upper Peninsula region. In our continuing efforts to maintain a safe and dependable water supply future water system improvements are necessary. The costs of these improvements may be reflected in the water rate structure. Future capital improvement projects include replacing obsolete water and sewer mains and upgrading the water treatment plant.

Precautions

Some people may be more vulnerable to contaminants in drinking water that the general population. Immune-compromised persons such as cancer patients undergoing chemotherapy, patients who have received organ transplants, patients with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk with infections. These individuals should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Please call our office at 932-5050 if you have any questions.